



INSTRUCTIONS

BALANCING INSTRUCTIONS

FOR GE TURBO ROTORS AND COMPRESSOR ASSEMBLIES

SCOPE

This instruction covers "Back-Shop" procedures required to balance turbocharger compressor and rotor assemblies. For the assembly process of turbine disc and compressor wheel assemblies, refer to publications GEK-61381 and GEK-61249.

TABLE I

Model	Half Key	"K"	"L"
7S1408A	41A219773P7	7.703	1.315
7S1408B	41A219773P7	7.703	1.315
7S1412	41A219773P7	7.703	1.315
7S1616	41A219773P9	8.253	1.563

BALANCING INSTRUCTIONS

TURBO COMPRESSOR ASSEMBLIES

1. Assemble compressor wheel assembly and half key (Table I) on a balancing arbor.
2. Dynamic balance to 0.02 in.-oz. in each of the two planes shown (Planes L_{c2}) and R_{c2}) at a speed of 600 rpm minimum by removing material from the areas shown, Fig. 1.

TURBO ROTORS

1. Assemble turbine disc assembly, dowels, shaft and stud as specified in publications GEK-61249 or GEK-61381 depending on size of turbocharger. Assemble nut, Fig. 2. Select correct half key (Table II) and secure in place. Support turbine disc and shaft sub-assembly at bearing supports as defined, Fig. 2, and run at 1100 rpm minimum.

2. Set-up for two-plane balance in Planes A and B. Make all corrections as described in Step 3.
3. Measure the out-of-balance in Plane A (which passes thru the center of the disc). Correct the out-of-balance measured in Plane A to 0.01 in.-oz. by the removal of one-half of the out-of-balance from each of the balancing correction planes (Planes a and b at the same angle).
4. After initial balancing, run the turbine disc and shaft sub-assembly from 0 to balancing speed two times, checking the balance.
5. After completing Steps 1 thru 4, remove the nut (holding the stud and turbine disc-shaft sub-assembly to prevent turning) and half-key assembly remaining parts as specified on rotor assembly (GEK-61249 and GEK-61381), Table III.

TABLE II

Model	Half Key	"E"	"F"	"G"	"H"	"J"	"R"
7S1408A	41A219773P1	1/2	5 7/16	3 1/8	3 1/16	3/32	6.984
7S1408B	41A219773P2	1/2	5 7/16	3 1/8	3 1/16	3/32	6.984
7S1412	41A219773P2	1/2	5 7/16	3 1/8	3 1/16	3/32	6.984
7S1616	41A219773P4	3/4	6 7/8	4 1/2	3 13/16	3/16	8.073

These instructions do not purport to cover all details or variations in equipment nor to provide for every possible contingency to be met in connection with installation, operation or maintenance. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's purposes, the matter should be referred to the General Electric Company.

Verify numbers for parts, tools, or material by using the Renewal Parts or Tool Catalogs, or contact your General Electric representative for assistance. Do not order from this publication.

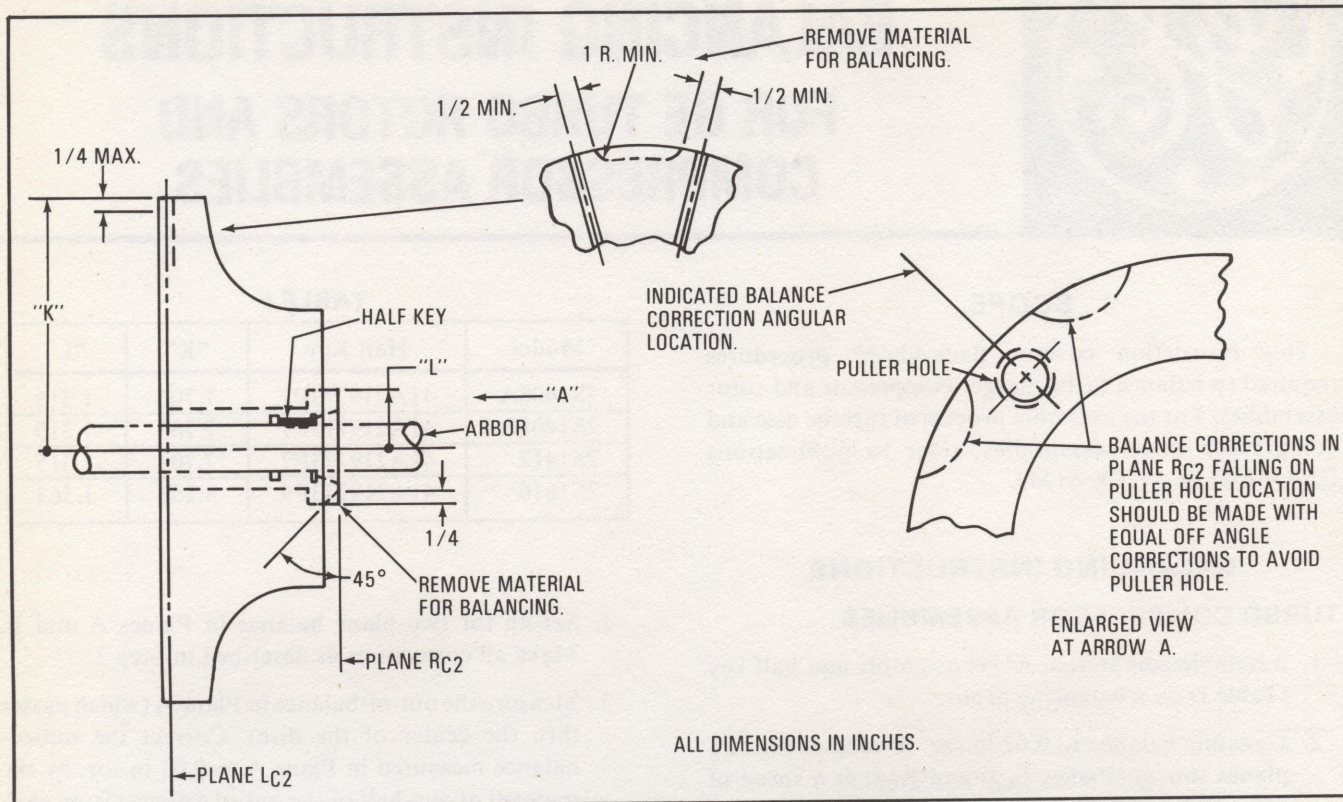


FIG. 1. COMPRESSOR BALANCING INFORMATION.

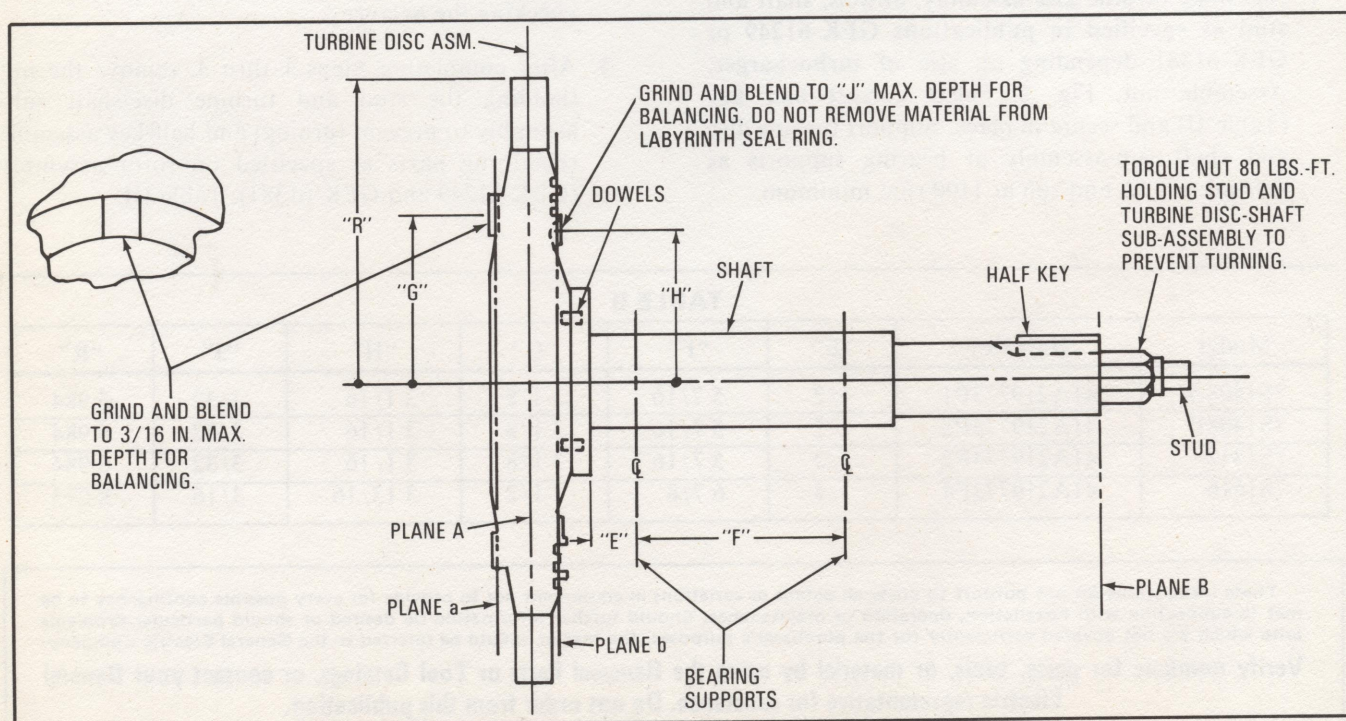


FIG. 2. TURBINE DISC BALANCING INFORMATION.

FIG. 1, E-29306

FIG. 2, E-29307

NOTE: Assemble compressor wheel assembly only after it has been dynamic balanced (Turbo Compressor Assemblies).

- Support rotor assembly at bearing supports, Fig. 2, and run at 1100 rpm minimum. Dynamic balance to 0.02 in.-oz. in Planes C and D by removing material from the two areas shown, Fig. 3. Make corrections in Plane C first.

TABLE III

Model	"K"	"M"
7SI408A	7.703	1.760
7SI408B	7.703	1.760
7SI412	7.703	1.760
7SI616	8.253	1.836

TABLE IV

Model	"G"	"M"
7SI408A	3.125	1.760
7SI408B	3.125	1.760
7SI412	3.125	1.760
7SI616	4.500	1.836

- After completing Steps 1 thru 6, support the rotor assembly at the bearing supports, Fig. 2. Dynamic balance to 0.01 in.-oz. at 1100 rpm minimum in each of the two planes shown (Planes a and D) by removing material from the two areas shown in Fig. 4. Make corrections in Plane D first. Refer to Table IV.

NOTE: Any tooling used for balancing such as a drive pulley, must itself be balanced to such extent that it does not contribute more than 0.002 in.-oz. out-of-balance to any of the balancing steps as described.

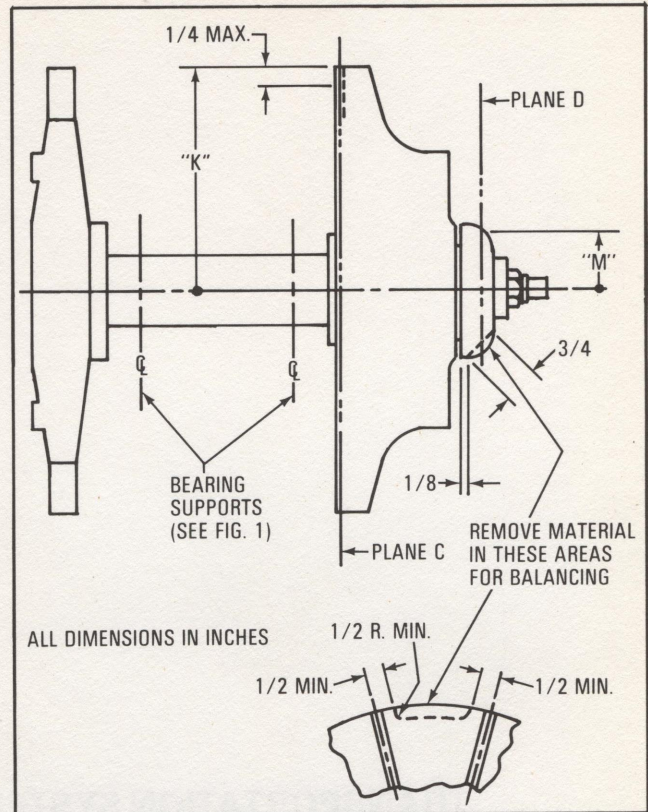


FIG. 3. ROTOR ASSEMBLY BALANCING INFORMATION.

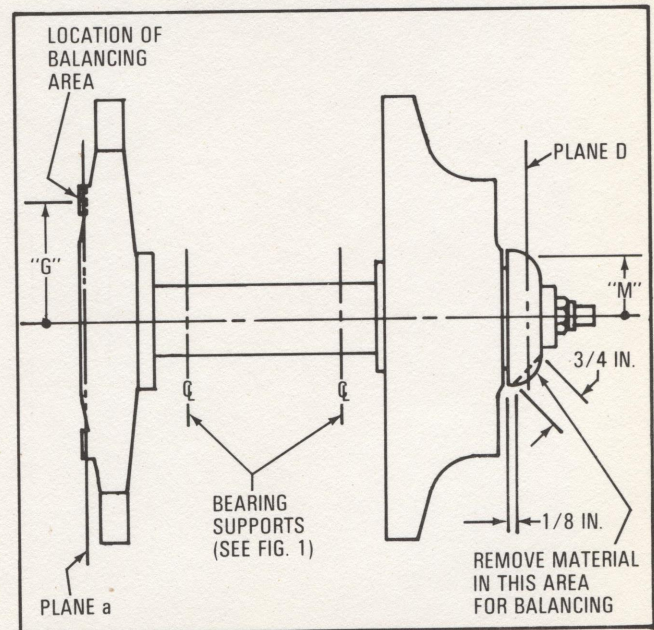


FIG. 4. ROTOR ASSEMBLY SUPPORT BEARING AREAS AND BALANCING INFORMATION.